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25X1A

[redacted] 7639-63
Copy 8 of 8

1 May 1963

MEMORANDUM FOR THE RECORD

SUBJECT : OXCART Engine Foreign Object Damage

1. It is understood that a decision has been made and design implemented by Lockheed for installing one directional flapper valves in the shock trap bleed passages of the aircraft inlet as a remedial action for reducing foreign object damage. It is felt that a large portion of this damage occurs while ground running during which reverse flow through these passages exists. Reverse flow can draw small objects lodged in and around these hidden passages in a forward direction, through the shock trap bleed opening screens, into the inlet proper, and then through the engine. The one directional flapper valves will close under the reverse flow condition precluding passage of these objects. Under normal flight operation, the flapper valves will be open to provide normal secondary airflow from the inlet through these passages to the engine nacelle and ejector.

2. Procedures obviously must be implemented for periodic inspection of the flapper valve area to remove any accumulation of objects and a determination made of the effect of additional pressure loss resulting from incorporation of these valves on the secondary airflow required for proper ejector operation and inlet shock positioning during flight. This pressure loss will be additive to that already incorporated with the previous FOD screen installation.

25X1A SIGNED

[redacted]
Development Division
(Special Activities)

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[redacted]:DD/OSA:hmj (1 May 1963)

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Control System

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